UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R077XB027NM

Site Name: Sandy Loam

Precipitation or Climate Zone: 15 to 19 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on level to gently sloping areas of the plains upland. Elevation ranges from approximately 3,800 to about 5,000 feet above sea level. Slopes range from 0 to 8 percent. Exposure varies and is not significant.

Land Form:

1. Plain
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	3,800	5,000
Slope (percent)	0	8
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	N/A	N/A
Duration	N/A	N/A

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as "semi-arid continental".

Annual average precipitation ranges from 15 to 19 inches. Seventy percent of the moisture usually falls during the six-month period May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. Spring precipitation (March, April, May) accounts for approximately 25 percent of the annual precipitation. Most of this comes as light rain showers. Winter moisture may occur as either rain or snow and usually averages less than ½ inch per month.

Temperatures are characterized by distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm; maximum temperatures average above 90 degrees F in July and August. Temperatures usually fall rapidly after sundown and range in the low 60's on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in mid-winter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The frost-free season ranges from 181 to 199 days. Dates of the last freeze vary from April 10th to April 23rd and the first freeze varies from October 18th to October 26th.

Wind velocities in this area are high and average about 5.3 miles per hour on an annual basis. The spring months are characterized by frequent windstorms with velocities in excess of 45 miles per hour, which cause excessive erosion on soils not protected by a good ground cover of vegetation. Humidity is low and evaporation is high.

Both temperature and rainfall distribution favor production of warm-season, perennial plants in this area. However, sufficient late winter and early spring moisture allows cool-season species to occupy an important component within most plant communities.

Climate data was obtained from the WCCR web site using 50 % probabilities for freeze-free and frost-free season using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	175	183
Freeze-free period (days):	191	202
Mean annual precipitation (inches):	15	19

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.43	.50	21.8	52.8
February	.43	.66	25.0	57.7
March	.68	.80	30.0	64.7
April	.90	1.05	38.1	73.4
May	2.01	2.35	47.3	81.8
June	2.13	2.67	56.1	90.9
July	2.80	3.25	60.6	93.4
August	2.80	3.05	59.4	91.2
September	1.66	2.17	52.4	85.1
October	1.29	1.37	41.5	75.0
November	.59	.72	30.3	62.5
December	.49	.65	22.1	53.5

Climate Stations:

				Period		
Station ID	291332	Location	Cameron, NM	From: 01/01/48	To:	05/31/98
Station ID	295516	Location	McCarty Ranch, NM	From: 11/01/83	To:	12/31/01
Station ID	297226	Location	Ragland 3SSW, NM	From: 02/01/35	To:	12/31/01
Station ID	297867	Location	San Jon, NM	From: 01/01/14	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

This site consists of soils that are deep and well drained. The surface layer is fine sandy loam about 6 to 18 inches thick. The subsoil is medium and moderately fine textured. They have argillic or cambic horizons and may overlie calcic horizons. These soils have medium to high intake rates. Water-holding capacity is moderate. The air-water-plant relationship is favorable for plant growth. The ability of these soils to absorb moisture quickly makes them more responsive to light or erratic rainfall than adjacent sites having heavier-textured surface layer. Effective rooting depth is 20 inches to more than 60 inches.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Fine sandy loam
2.
3.

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 35 to 60
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Moderately slow	Moderately rapid
Depth (inches):	40	>72
Electrical Conductivity (mmhos/cm):	0.00	4.00
Sodium Absorption Ratio:	N/A	N/A
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	6	9
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
This site is a grassland with a mixture of warm-season short and mid-grasses dotted with an occasional half-shrub. Perennial and annual forbs make up approximately 15 percent of the plant community. Half-shrubs make up a minor portion of the community.

Canopy Cover:	
Trees	0
Shrubs and half shrubs	10 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	30
Bare ground	30
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	640	960	1,280
Forb	112	168	224
Tree/Shrub/Vine	48	72	96
Lichen			
Moss			
Microbiotic Crusts			
Total	800	1,200	1,600

Plant Community Composition and Group Annual Production: Plant species are grouped by annual production **not** by functional groups.

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2 BOHI2	Blue Grama Hairy Grama	240 – 300	240 – 300
2	BOCU	Sideoats Grama	180 – 204	180 – 204
3	BOER4	Black Grama	180 – 204	180 – 204
4	SCSC	Little Bluestem	120 – 156	120 – 156
5	SEVU2	Plains Bristlegrass	60 – 84	60 – 84
6	SPCR	Sand Dropseed	36 – 60	36 – 60
7	HENE5	New Mexico Feathergrass	36 – 60	36 – 60
8	HECO26	Needleandthread	36 – 60	36 – 60
9	ARIST	Threeawn spp.	36 – 60	36 – 60
10	PLJA	Galleta	36 – 60	36 – 60
11	ELEL5	Bottlebrush Squirreltail	36 – 60	36 – 60
12	MUAR2	Sand Muhly	36 – 60	36 – 60

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
13	SPHAE	Globemallow spp.	24 – 48	24 – 48
14	HOGL2	Indian Rushpea	12 – 36	12 – 36
15	CROTO	Croton spp.	12 – 36	12 – 36
16	ERAN4 MEMU3 HEAN5	Annual Buckwheat Stickleaf Annual Sunflower	12 – 36	12 – 36
17	2FP	Other Perennial Forbs	36 – 60	36 – 60
18	2FA	Other Annual Forbs	36 – 60	36 – 60

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
19	YUCCA	Yucca spp.	36 – 60	36 – 60
20	GUSA2	Broom Snakeweed	12 – 36	12 – 36
21	KRLA2	Winterfat	0 – 24	0 – 24
22	ACGR ARFR2 OPPO PACAL5	Catclaw Acacia Sand Sagebrush Plains Pricklypear Cactus Wooly Groundsel	0 – 24	0 – 24

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID **5202NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Warm-season grassland with minor components of forbs and shrubs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

No Data

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Amarillo	B
Bascom	B
Berwolf	B
Canez	B
Clovis	B
Drake	B
LasTanos	B
Mansker	B
Portales	B
Springer	B, A

Recreational Uses:

Recreation potential is limited. Suitability for camping, picnicking and hiking is fair, limited mainly by live water and the lack of shade. Hunting is good for antelope, quail, dove and small game. The terrain typical of the "wide open spaces" of the area enhances aesthetic appeal. The natural beauty of this site is enhanced by the large variety of flowering plants that bloom from early spring to late fall with the availability of precipitation.

Wood Products:

This site produces not wood products.

Other Products:

Grazing:

All classes and kinds of livestock can graze this site during any season of the year. Approximately 95 percent of the total yield are from species that furnish forage for grazing animals. These species are a large variety of grasses and forbs, which provide good forage and nutrition for grazing animals during most of the year. Supplemental protein is needed during the winter months. Due to the potential of this site to produce forbs, it may favor grazing by sheep and antelope. Continuous yearlong grazing by cattle or continual grazing during the period from April through October will cause the site to deteriorate and become less productive. Species such as little bluestem, sideoats grama, black grama, plains bristlegrass, New Mexico feathergrass and winterfat will decrease in composition of the plant community. Species such as blue grama, sand dropseed, threeawn spp., yucca spp. and broom snakeweed win increase under continual grazing. Sand sagebrush will increase on this site under deteriorated conditions. A system of deferred grazing, which varies the season of rest and grazing during successive years, is needed to maintain or to improve a healthy well-balanced plant community. Deferment during different seasons of the year benefits different species. Rest during the winter benefits winterfat. Also, cattle show a definite preference to black grama during the late winter and can be over utilized. Winter rest will reduce the grazing pressure on black grama. Spring rest (April-June) will benefit cool-season grasses such as New Mexico feathergrass and early forbs. Summer rest will benefit warm-season species such as little bluestem, sideoats grama, black grama and blue grama. Fall rest will allow warm-season plants to compete their growth cycle and mature.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.0 – 4.3
75 – 51	2.6 – 5.5
50 – 26	3.8 – 8.0
25 – 0	8.0+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Plains Bristlegrasss	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	P	D	D	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U

Animal Kind: Livestock
Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Globemallow	Sphaeralcea spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Sideoats Grama	Bouteloua curtipendula	EP	D	D	D	D	P	P	P	P	P	D	D	D
Black Grama	Bouteloua eriopoda	EP	D	D	D	P	P	P	P	D	D	D	D	D
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	D	P	P	P	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U
Croton	Croton spp.	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	L/S	D	D	D	D	D	D	D	D	D	D	D	D

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **Curry, Harding, Quay**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern High Plains 77 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys : Harding, Curry & Quay.

Characteristic Soils Are:	
Amarillo, Bascom, Berwolf, Canez, Clovis	Drake, Las Tanos, Mansker, Portales, Springer
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	08/29/02	George Chavez	09/12/02